PROPHYLAXIS;

OR, THE

MODE OF PREVENTING DISEASE,

BY

A DUE APPRECIATION

OF THE

GRAND ELEMENTS OF VITALITY:

LIGHT, AIR, AND WATER.

WITH

OBSERVATIONS ON INTRAMURAL BURIALS.

BY

EDWARD BASCOME, M.D.,

&c. &c. &c.

"Ο οἴδαμεν λαλοῦμεν, καὶ ὃ ἑώρκάμεν μαρτυροῦμεν.

" WE TEACH THAT WE DO KNOW AND TESTIFY THAT WE HAVE SEEN."
Gospel John III. 11 *v.*

S. HIGHLEY, FLEET-STREET.

1849.

LONDON:

PRINTED BY A. MUNRO, QUEEN'S HEAD YARD, GREAT QUEEN-STREET,
LINCOLN'S INN FIELDS.

PREFACE.

THE greater portion of the following pages was written, and is intended to form a part of a work which will shortly be published, entitled "A History of Epidemic Pestilences from the Earliest Ages, 1491 years before the Birth of Our Saviour, to the Present Period, &c." In consequence, however, of the enquiry and great interest excited in the minds of the public by the late melancholy outbreak of disease at Tooting and elsewhere, the author has been induced to contribute his mite of information,—

"Non sibi sed toti mundo se credere natum,"—

by sending forth in the present form his ideas as to what should form the ground-work—the very basis of all sanatory measures.

4, Elm Tree Road, St. John's Wood.
20th March, 1849.

Dedicated

TO

ALL TRUE PHILANTHROPISTS, ADVOCATES

FOR

SANATIVE MEASURES,

Irrespective of Self-interest, the great bane of Reform.

PROPHYLAXIS, &c.

Πλειη μεν γαρ γαια κακων πλειη δε θαλασσα
Νουσοι δ' ανθρωποισιν εφ' ἡμερη ηδ' επι νυκτι
Αυτοματοι φοιτωσι.

"The earth's full of maladies, and full the sea,
Which set upon us both by night and day."

HESIOD.

IT would appear as far as human knowledge extends, that all organised bodies, from a variety of causes as dissimilar as they are complicated and numerous, are more or less susceptible of change and decay. Thus we see disease assail and carry off mankind at all times and in all regions; murrain destructive of dumb animals, while blight spares not the vegetable kingdom, from the sturdiest oak, to the most diminutive herbage; in fine, all nature is subjected in various degrees to the devastating tendency of the elements, in their general evolutions in the mundine economy, based on immutable laws arising from original and Supreme provision.

The grand phenomena of nature exhibited in the commotions of the physical world, supplying materials for the explication of all diseases, we, without searching after mysterious agencies, and neglecting those which nature is constantly presenting to our view, can assign all maladies to natural causes.

In attributing disease to natural causes, it must not be supposed, however, that any one of these, as heat, cold, moisture, or drought alone will be sufficient to induce it. To excite disease there must be a combination of causes varying in intensity or degree.

The causes of disease are distinguished as the exciting and

the predisposing. The former arise from atmospheric vicissitudes, consisting of variations of temperature, hygrometric influence, atmospheric pressure, electrical tension, &c. &c.; the latter, from want of light, from impure air, especially from defective ventilation, in which are included malaria, and all other noxious vapours, from whatever source arising; scanty diet, and habits induced by the irregular, artificial life of man, which, by enervating the system, render it more susceptible of external impressions, and thus produce the predisposition to disease.

On reviewing the histories of by-gone ages, we learn, that from the earliest times disease has visited every country with a frequency and malignancy always proportioned to the intensity of the predisposing causes; we have already stated, that disease arises from certain conditions or vicissitudes of the atmosphere, together with the application of other powers producing direct debility. Over the former, as the exciting, the vital cause, we have but little control; it is the latter only, the predisposing causes, that we can attempt to counteract with a fair prospect of success, seeing that such predisposing causes more generally arise from the infraction of the unalterable laws originally laid down for the government of mankind, —from a neglect of the most obvious laws of our being,— and that Providence, for the most part, acts by secondary causes, we should direct our efforts to the arresting of every condition which predisposes to, or aggravates disease, such condition being more or less subjected to human regulations.

"Prevention," says the adage, is "better than cure." When the sources of sickness have been remedied, the production of the evil has been limited, if not totally annihilated; it is, therefore, to the adoption and enforcement, by judicious legislative enactments, of prophylactic measures based on scientific views, that we would direct especial attention, for by such measures, we not only, to a great extent, prevent disease, by rendering the body less susceptible of its influence, but, when attacked by it, we lessen its fatality, by placing the vital system in a normal condition, capable of bearing up against it:—

"Salus populi suprema lex est."

It is a lamentable fact, that in this our own country, with

all its practical talent, and its great advance in civilisation, hitherto so little progress has been made in a matter deeply involving the moral, as well as the physical condition of the great mass of our population. As one proof out of many of what may be effected by judicious measures, we may advert to the present condition of our navy, as contrasted with that of the last century. Formerly we heard among our seamen of nothing but dysentery, fevers, scurvy, &c. &c., which diseases have been known to depopulate whole fleets. In the year 1726, when at sea, great mortality occurred from these scourges in the fleet, consisting of seven ships under the command of Admiral Hosier, on the West India station. He twice lost the crew of his own ship. In the year 1741, also at sea, half the crew of Captain Anson's fleet died from scurvy in less than six weeks after leaving England; and in the year 1780, 11,732 cases of scurvy, dysentery, and fever were sent to Haslar Hospital from the Channel fleet! whilst now, from the attention paid to the construction of our shipping, to ventilation, cleanliness, and diet, we scarcely meet with these diseases among the seamen, and the wards of Haslar Hospital, which formerly were crowded with cases of scorbutic disease, now seldom exhibit a case.

Within the last few years, the subject of prophylaxis having been fully and ably discussed by scientific and experienced persons, we shall not attempt the suggestion of any thing new, our object being rather to draw and fix attention to that which should be of paramount consideration in all efforts for sanatory reform.

The two grand essentials for vitality are light and air, to which may be added, water. These, which are supplied to us by an all-wise and beneficent Creator in unlimited abundance, are indispensably necessary to a healthy state of animal life; the absence of the one, or impurity of the other, as being detrimental to life, should take the lead of all sanatory measures.

We know from experience, that the influence of light and atmospheric temperature upon living bodies is very similar, being manifested by the strongest stimulating effects; in fact, light is known to be an important agent in varying the phenomena of the atmosphere, the stimulating effects of the at-

mosphere being more or less modified by light, differing according to the permanency and intensity of such light. The sun being the principal source of light and heat, their influences may be considered as inseparable, and acting in concert; if a thermometer were to be removed from the dark into the light, the mercury would be seen to rise, and, on the other hand, if it were to be conveyed from the light to the dark it would fall.

Commencing with the properties of light, we find its influence on inorganic bodies and vegetables to be unequivocal; in short, it may be said that so very extensive is its influence, that there is not a substance, which when exposed to its action, does not experience some alteration. Without light, independently of the heat which is its ordinary concomitant, there would scarcely exist a trace of vegetation, and when we reflect on the remarkable dependence of the animal and vegetable kingdoms on each other, the animal by the extrication of carbonic acid gas, affording a fluid essential to vegetation; the plant, on the other hand, by the emission of oxygen, supplying the atmosphere with the gas which is equally necessary for the well-being of the former, we cannot suppose light to be less essential to animal life.

The chemical effects of light, and its influence on animal and vegetable vitality, have much engaged the attention of philosophers:—

> "O, sun—
> Thou shin'st in boundless majesty abroad,
> High gleaming from afar—prime cheerer, heat;
> Of all material beings first and best!
> Efflux divine!—
> Without thy quick'ning glance, our cumbrous mould
> Were brute, unlovely mass, inert and dead;
> And not as now, the sweet abode of life.
> How many forms of Being wait on Thee!
> Inhaling spirit; from the unfettered mind,
> By thee sublim'd, down to the daily race,
> The mixing myriads of thy setting beam—
> The vegetable world is also thine!
> The very dead Creation, from thy touch,
> Assumes a mimic life. But this
> And all the much-transported Muse can sing,
> Are, to thy splendour, dignity, and *use*,
> Unequal far! Great delegated Source
> Of Light and Life, and Grace and Joy below."

With reference to the vegetable kingdom, we see that the most delicate of the discous plants or flowers turn constantly

towards the sun; it is also well known, that the change of position of the leaves of plants, at different periods of the day, is entirely owing to the agency of light; plants growing in the shade, or in darkness, are pale, and without their natural and healthy colour—they become "etiolated" or blanched. Gardeners avail themselves of a knowledge of this fact, and, by excluding the light, they obtain celery, lettuce, &c. &c., in a white state. If a potato be placed in a dark cell, with but one small aperture for the admission of light, on germinating, the sprout will turn and grow towards the light, and will continue pale and white until it reaches the light, and becomes fairly exposed to its stimulus, when its natural and healthy colour will be assumed.

Light contributes to the maturity of seeds, fruits and flowers. Professor Davy found by experiment, that red rose trees, carefully excluded from light, produced roses almost of a white colour. Vegetables are not only indebted to the light for their colour, but their taste and odour are likewise derived from, or at all events greatly influenced by the same source. Light is also an essential element in the topographical arrangement of plants. The southern slopes of our hills and mountain ranges are always clothed with a more fully developed race of plants than the northern; this depends wholly upon the greater degree of light and heat which the former enjoy. The more free the exposure, the more readily will most plants blossom, and yield a rich fruit; so well is this understood in the grape countries on the Rhine, that the right bank of that river which faces the sun is reckoned to be much more valuable than the left, and commands a higher price for its wines.

Turning to the animal kingdom, which is more immediately our province, we find in that portion of nature, an equal dependence on light for its proper development and vitality. Animals droop when they are deprived of light; there are instances on record where persons having been long confined in dark places, or dungeons (even though well ventilated), their whole complexion has become sallow, their general health deteriorated, pustules, with aqueous humours, have opened out upon their skin, and they have become languid, and frequently dropsical. In the absence of light, there is a pre-

dominance of the white fluids of the body; the action of the lymphatic system is exalted, and it imparts to the organisation of animals, that remarkable blanched appearance called "etiolment." Hence the well-founded supposition, that the absence of the solar rays of light contributes greatly to the development of scrofula.

"Let in the sun and you shut out the doctor," says an old Italian proverb. The effects of the free admission of light, as a point of great importance to the well-being of every individual, has been proved by the experiments of Dr. Edwardes, who has shown, that if tadpoles be nourished with proper food, and exposed to the renewed action of water (so that their bronchial respiration may be maintained), but are entirely deprived of light, the growth continues, but their metamorphosis into the condition of air-breathing animals is arrested, and they remain in the form of large tadpoles. Dr. Edwardes also observes, that persons who live in caves and cellars, or in very dark, narrow streets, are apt to produce deformed children. Rabbits, which were kept in a dark cellar, were affected with mollities ossium, their limbs being useless.

It has been recently stated, that the cases of disease in the dark side of an extensive barrack at St. Petersburgh, have been uniformly, for many years, in the proportion of THREE to one to those on the side exposed to a strong light.

Dupuytren relates the case of a lady whose maladies had baffled the skill of several eminent practitioners. This lady resided in one of the narrow streets of Paris, and in a dark room in which the sun never shone. After a careful examination, Dupuytren was led to refer her complaints to the absence of light, and recommended her removal to a more cheerful situation; this change was followed by the most beneficial results; all her complaints in a very short time vanished.

In a series of experiments made by Mr. Simon upon cats, which that gentleman confined in dark cellars, he found after death disease of the kidney, resembling that morbid state of the gland, generally known as morbus Brightii (Bright's disease), and, in other cases, incipient fatty degeneration of the liver.

Humboldt has remarked, that among several nations of

South America, who wear very little clothing, he never met with a single individual with a natural deformity; and the celebrated Linnæus, in his account of his tour through Lapland, enumerates constant exposure to solar light as one of the causes which render a summer's journey through high northern latitudes so peculiarly healthful and invigorating; whilst the reverse is observed in less favoured regions—

> " ———————— beyond Tornea's Lake,
> And farthest Greenland, to the Pole extreme,
> Where, failing gradual, Life itself goes out:
> There Winter holds his unrelenting court.
> Near the wild Oby live the last of men!
> There, half enliven'd by the distant Sun,
> That rears and ripens man as well as plants—
> There human nature wears its lowest form!"

We will now enter upon the consideration of another of the grand essentials of vitality, Air—

"Vivit Ætherias vitaleis succipit auras."

Atmospheric air, the permanently elastic fluid which surrounds the earth, although invisible, may be said to be material, and partaking of all the common properties of matter; for it occupies space, attracts and is attracted, and consequently has weight. It likewise partakes of the nature of a fluid; for it adapts itself to the form of the vessel in which it is contained, and presses equally in all directions. Its power, when vitiated, as a cause of disease can only be determined by a scientific examination of its properties, especially as regards its affinities to other things. It should therefore claim the attention of every individual, professional or non-professional, who has the comfort of mankind at heart.

"It is scarcely possible," says Professor Davy, "duly to appreciate, in the vast economy of terrestrial adaptations, the importance of the mechanism by which gases and vapours rapidly permeate each other's bulks and become equally diffused. The atmosphere which surrounds the globe consists of a mixture of several aëriform fluids in certain fixed proportions, upon the proper maintenance of which, by measure and weight, the welfare of the whole organic creation depends."

One of the principal uses of the atmosphere is to supply animals with a medium for breathing. Breathing is an essential effort of the human system. Its immediate effects are the operation of considerable changes on the blood,—

"In the blood is life, which vitality depends on air."

An outlet is also afforded to carbonic acid gas, and the acquisition of a quantity of oxygen and nitrogen, which combining with the constituent parts of the chyle, convert it into the nature and quality of nutritious blood. The temperature of the animal is supposed also to be a consequence of the decomposition of air in the respiratory process. The processes of respiration and combustion perpetually tend to the destruction of the vital air, and the substitution of another, which is a deadly poison to animal life. By means of ventilation and circulation—causing currents of air—such poisonous air is not allowed to accumulate, but is diffused through the surrounding space, while the vital gas rushes, by a counter tendency, to supply the deficiency which the local consumption may have created; and thus is explicable one of the self-apparent reasons as to the imperious necessity for free ventilation.

Notwithstanding our imperfect acquaintance with the manner in which water is suspended in the atmosphere, it is well known that the human body is greatly influenced by the aqueous vapour in such state of suspension, and that the sources of poisonous emanations are active in proportion to the grade of atmospheric humidity and its temperature. An atmosphere surcharged with humidity not only prevents the cuticular discharge necessary to a healthy state, but sensibly diminishes the watery exhalations from the lungs, thereby inducing various morbid effects on the system. We observe the conversion of volatile bodies into a gaseous form exemplified in the perfume of flowers being more sensible during the fall of dew of an evening or in a morning, when the dew evaporates and is dissipated by the rays of the morning sun: in the same manner, the exhalation of deleterious matters, as the filth of ditches and badly-drained sewers, becomes more active. Excess of moisture also, by diminishing the vital action, provides another cause of disease in conjunction

with the enervating effects of deleterious gases: hence the more poisonous properties or injurious action of those gases in stagnant atmospheres, which are always more humid than where there is efficient circulation, i. e. ventilation.

> "Of what important use to human kind,
> To what great ends subservient, is the wind!
> Where'er th' aërial active vapour flies,
> It drives the clouds, and ventilates the skies;
> Sweeps from the earth Infection's noxious train,
> And swells to wholesome rage the sluggish main.
> For, should the sea unagitated stand,
> Death, with huge strides, would desolate the land;
> The scorching sun, with unpropitious beam,
> Would give to grief an everlasting theme;
> And baneful vapours, lurking in the veins,
> Would fiercely burn with unabating pains.
> Such were the plagues that spread o'er Egypt's land,
> When Moses, taught by God, stretch'd forth his hand;
> From animated dust fell myriads rose,
> And vengeance shed o'er Israel's harden'd foes."

Signal benefit from ventilation was observed some years ago in the Savoy and Newgate prisons, in both of which the gaol fever was, as it had always been, frequent and very fatal. It was tried on the recommendation of the great and good Dr. Hales, whose studies and experiments were constantly directed to the benefit of mankind. The good effects exceeded even the Doctor's most sanguine expectations, for the numbers attacked were greatly decreased, and the fever became less fatal, after due ventilation had been established, and the supposed contagion had been thereby arrested. On a reference to the writings of the benevolent Howard, we shall perceive that he found the prisons on the Continent perfectly free from pestilential fever, owing to the apartments in which the prisoners were confined being spacious and well aired.

Dr. Thomas Bateman, writing on the low fevers of London occurring among the poor, observes that he has often been surprised, after having seen a patient in the low muttering delirium of fever while in his own habitation, to find him with clear intellect and invigorated system after passing a night in the House of Recovery, although no medicine whatever had been given. We have ourselves observed the remarkable and decided effects on the pulse, caused by the removal of patients suffering from low typhus and other

fevers;—their improvement has been general and decided merely from the removal from a lower to an upper ward where the ventilation has been more perfect. Of the many striking illustrations of the benefit resulting from the free access of pure air, the remarkable decrease of disease and death among the carnivora at the Zoological Gardens, as reported in 1845, since the improvement of the ventilation, may be instanced. The following statement, taken from the history of the Dublin Lying-In Hospital, shows in an extraordinary degree the advantages resulting from free ventilation. In this hospital, 2944 infants out of 7650 died in the years 1782-83-84 and 1785, within the first fortnight after their birth—that is to say, nearly one child out of every six died of convulsions, which were called nine days' convulsions by the nurses. These children foamed at the mouth, the jaws became locked, the face swelled, and looked blue as though they were choking. This last circumstance led the physician in attendance to attribute the disease and great mortality to the close and crowded state of the hospital, causing a deficiency of good air. Air pipes, with other openings, were contrived—the rooms were kept sweet and fresh by means of ventilation—and the consequences observed were, that in the year

1786	out of	1372	children	there died	51
1787	"	1375	"	"	59
1788	"	1496	"	"	55
		4243			165

So that, since ventilation has been properly effected, out of 4243 children there died 165; whereas the average number of deaths from the same numbers, previously to ventilation, was 1632!

"And all proclaim Omnipotence Divine.
* * * * * * * * * *
We view his kind, his life-preserving care,
In all the wond'rous properties of AIR.
Were once the energy of *air* denied,
The heart would cease to pour its purple tide;
The purple tide forget its wonted play,
Nor back again pursue its curious way;
Gross vapours would the springs of life pervade,
And make the brightest human blossom fade."

Dr. Barron, among a series of experiments, confined a number of young rabbits in a close damp situation: many of the animals died at intervals varying from five to seven weeks from the time of their incarceration. On the removal of the survivors to dry localities, which were otherwise favourable to health from being well ventilated, their condition soon became manifestly improved. This fact has been further confirmed by the experiments of Sir James Clark and Drs. Carswell and Jenner.

In a report of the sickness which occurred among the Edinburgh Police, as drawn up by the medical attendant, the effect of an ill-ventilated station-house is noticed. It furnishes an additional example, if such were needed, of the importance of pure air and plenty of it. The men boarded and lodged in this place were originally the healthiest and youngest men in the force; yet the rate of sickness among them was very great, as also was the mortality—being more than treble that of the other part of the force located elsewhere. Out of thirty-seven men occupying the house in question, only one was found to be free from functional disorder: the prominent symptoms being great sensibility to cold, copious cold perspirations, a constant sense of fatigue, with pain in the eye-balls and loss of appetite.

It would appear that in all propositions for sanatory improvements, the all-engrossing topic is—the noxious properties of stinking vapours. The cesspools and sewers seem to be the chief object of solicitude, even in legislative proceedings; as though there were no deleterious gases surrounding our globe, inappreciable to the olfactories, and yet of far more consequence in a sanatory point of view. Now, although vapours arising from cesspools and imperfect drainage unquestionably constitute one of the many predisposing causes to disease, they are not of such paramount importance as ventilation; for their noxious influence, from whatever source they may arise, depends more or less on their existence in open or confined places. The indefatigable Parent Duchatelet, in his work on "HYGIENE PUBLIQUE," has shown that stenches, filthy exhalations, however disgusting, are not necessarily the cause of disease, when not pent up, as *à priori* they might be supposed to be. He informs us that at

one of the most extensive "Chantierres d'equarrissages," situated at Montfaucon, within a mile or two of Paris, occupying a large open space of ground, where thousands of horses, dogs, and cats are taken yearly to be slaughtered, and where almost all the ordure of Paris is collected together, the most abominable stenches are to be met with: the ground, saturated with the blood of the murdered animals, sends forth a most disgusting fœtor, as do also the enormous mounds of putrid flesh collected for the purposes of manure, and the generation of maggots for the feeding of poultry! Yet the workmen living and employed in these places, in the filthy occupation of glue and music-string making, &c., enjoy an immunity from disease that is truly astonishing, while their exemption from illness during the destructive prevalence of cholera in Paris was equally remarkable. The existence of such disgusting nuisances, as represented by Duchatelet, can by no means be approved of; but reference to them here is made to show, by well-ascertained facts, that the remedying of the effluvia arising from imperfect drainage, cesspools, *et hoc genus omne*, is not of such VITAL importance as the free admission of the atmosphere; for we have seen that stagnant air is caused by the want of a free current, and from the non-admission of light (which is heat) is more humid, and that humidity increases the activity of noxious gases, so that where ventilation is defective there will always be an accumulation, consequently a concentration, of such gases from cesspools, exhalations from the body by expiration, and from the skin—all of which, physiologically considered, will show the vast importance of light and pure air, on which all sanatory measures, to be effective, must be based. Ventilation, by striking at the root, will remedy all this.

Again, it must be recollected that the object of ventilation is not solely to dissipate and get rid of odours offensive to the olfactories, but also to supply the system with a vital stimulus —the very *pabulum vitæ*—the oxygen necessary for the proper performance of the functions of the different organs, which cannot be obtained in due proportion from stagnant air—the supply in such an atmosphere from defective circulation being inadequate to the demand or consumption. When an animal is inclosed in a limited quantity of atmospheric air, it dies as

soon as the oxygen is consumed; and no other air will maintain animal life but oxygen, or a mixture which contains it. Further, ventilation, by supplying the vital stimulus, and inducing a normal condition, also fortifies the system against atmospheric vicissitudes—the grand excitant of disease.

Opening up and enlarging drains, or establishing them where none had previously existed, while the localities are allowed to remain in a crowded state, will, while such operations are being carried on, multiply the evil. A commencement must be made by rasing to the ground the dens of physical and moral iniquity which have been so disgracefully permitted to exist in the occupancy of those unfortunates who have it not in their power to remedy the miseries to which it never was the intention of Creative Wisdom that the meanest reptile should be subjected, much less Man, once the image of his Creator—His noblest work!

The subjects of Light and Air having been disposed of, we will next discuss the properties of Water:—

> "That chief ingredient in Heaven's various works,
> Where flexile genius sparkles in the gem,
> Grows firm in oak, and fugitive in wine."

It is a necessary beverage for man and other animals—is perpetually used as a solvent for a great variety of solid bodies—acts an important part in conveying nourishment to the vegetable world, and gives salubrity to the atmospherical regions—in fine it is a fluid so generally distributed over our globe, and consequently so universally known, that to enter into the minutiæ of its various properties would be superfluous for the purposes of these pages.

> "If there be any universal medicine in nature,
> It is Water"—says HOFFMAN.

Considering water dietetically, as well as medicinally, it cannot but be a matter of wonder, to all who know anything of the water drunk in this great metropolis, that no measures have ever been taken for the purification of an element so essential to a healthy existence, although many excellent plans have from time to time been suggested by persons

practically conversant with such matters. In the report of a committee of the House of Commons, published in 1836, it is stated of the water from the Thames, that it "receives the excrementitious matter from nearly a million and a half of human beings;—the washings of their foul linen—the filth and refuse of many hundred manufactories—the offal and decomposing vegetable substances from the markets—the foul and gory liquid from slaughter houses—and the purulent abominations from hospitals and dissecting rooms, too disgusting to detail." This polluted state of the water supplied to this vast metropolis is not, however, the only crying evil. The quantity as well as the deleterious quality is also a matter of just complaint, the supply of this first necessary of life being insufficient for drinking and culinary purposes, independent of its uses as an hygienic agent, for personal ablution; the salutary effects of which we will next consider—

> "And in the bath prepared my limbs I lave.
> Reviving sweets repair the mind's decay,
> And take the painful sense of toil away."

The use of the bath has doubtlessly existed from the beginning of the world. Bathing appears to have been a practice instinctively adopted by all nations and tribes throughout the universe. Amongst the North and South American Indians—in Africa—even among the most barbarous and uncivilized races—bathing is a usage to which they pay scrupulous attention: yet, strange to say, to this day, personal ablution is little known or practised, in this otherwise proudly pre-eminent country, as a hygienic agent: it is viewed more as a matter of luxury, and then but very sparingly used, even by our wealthy and middle classes.

Socrates tells us that "bathing renders a man pure, both in soul and body." It should be practised "for the sake of HEALTH, cleanliness, and, lastly, of pleasure," says Clemens Alexandrinus.

The ancient Romans considered the bath as the most important item in the economy of their lives: they regarded it as indispensable for health and comfort—an idea of the magnificence and luxurious construction of the Roman baths may be

formed from the poetical description by Statius, of the baths of Claudius Etruscus:—

> "Nothing there's vulgar; not the fairest brass
> In all the glittering structure claims a place.
> From *silver* pipes the happy waters flow,
> In *silver cisterns* are receiv'd below.
> See where with noble pride the doubtful stream,
> Stands fixed with wonder on the shining brim;
> Surveys its riches, and admires its state;
> Loath to be ravish'd from the glorious seat."

The most remarkable bagnios were those of the Emperor Dioclesian and Antonius Caracalla, with their curiously vaulted roofs, spacious apartments, and a thousand other ornaments and conveniences. Those of Dioclesian occupied 140,000 men many years in building them.

Bathing acts morally, as well as physically. It induces habits of cleanliness, which are found allied only with self-respect, improved temperance, intelligence and morality. Nothing is more soothing to the irritable impulses of the passions, as the peculiar serenity which the bath imparts. The Romans in their days of sensuality, invariably had recourse to the bath to relieve the effects of their dissipation, and after great fatigue from journeying, &c. Who is there, we would ask, that has not experienced, after a night's debauch in the indulgence of luxuries, when the head and heart have been oppressed, and the nervous energies prostrated—the restorative and invigorating effects of the bath—for what allays feverish irritability and perturbation of the nervous system so admirably as the *cold*, *tepid*, or *hot bath*, according as the offender may have been accustomed to use. Everywhere on the Continent, baths are to be had in the greatest state of perfection. The French perform entire personal ablution daily. In Italy, Holland, and Germany, they patronise the bath to a great extent, and amongst the Turks and Persians, and throughout Asia, bathing is imperative as a part of their religion. They consider it an absolute necessary of life, whilst we, the most refined people of the world, are satisfied with a change of linen, and that too, very often over a not very clean under-garment, or body flannel!

The Hungarians and Russians bathe after the manner of the ancients; in Russia especially, where the bath makes so much a part of the system of living—it is used by persons of every age, and under all circumstances. A Russian considers that the bath is a remedy for all his ailments; he flies to it on all occasions; men, women at their lying-in, and children, in almost all sicknesses, and before and after a journey, &c., resort to the bath as their *solatium*—which, to use the words of the illustrious Cullen "imparts a sense of youth, vigour, and self-complacency." The Romans for five-hundred years together were without physicians; it was by means of the bath they effected all their cures of disease, and to this day many nations cure their maladies by the use of baths—in which there is nothing so very marvellous, as the simplicity of such means at first sight may lead persons to suppose, when we consider the importance of the skin in the animal economy, that it is not merely the organ of sensation, but that it is endowed with an extensive and complicated nervous apparatus, through which its sympathies with the entire organism are managed, and that it possesses extensive secretory, excretory, and absorbing powers, the *normal condition* of these functions being essential not only to *health*, but *to life itself*.

At an early period in this country during its possession by the Romans, baths appear to have been in use. The remains of a Roman bath (according to Camden,) were discovered at Hovingham, in Yorkshire; he also alludes to baths being used by Richard II., by Henry IV. A. D. 1399, and by Henry VIII.—from which, as it is related by Hall, the order of the Knights of the Bath emanated. We also find Bishop Burnett in his "History of his Own Times," speaking of King James the Second visiting the Queen at the baths, where he stayed only a few days, while she continued her course of bathing. This Bagnio of James's was built in Long Acre, A.D. 1685—but in consequence of its being soon dedicated to intrigue, bagnios acquired a bad character, and fell into disuse.

Considering our pretensions to all that is refined, there is perhaps no race of people more devoid of personal cleanliness

than ourselves. This is a fact (however unpleasant the reference to it may be) that admits of no contradiction, for the greater proportion, including even the *higher* and middle classes of the population of this country, are never subjected to entire ablution during the whole period of their lives—from their childhood to their death. Fancy an octogenarian sweltering in the accumulated impurities of three-fourths of a century!

"Buried in smoke, in filth and pois'nous damps."

Can it be wondered at, that he hands down to his offspring a corrupt, a tainted condition of fluids, which entails misery on them in the shape of scrofula, and every variety of skin disease?

Independent, however, of any hereditary disposition to skin and other diseases, it is too much the custom for persons who merely splash with water their neck, face, and hands daily—neglecting to wash their bodies from year to year, so that the effete matters of the system become condensed on the skin, thereby obstructing the exhalant pores, and causing various internal complaints, and very frequently universal itching—to reconcile themselves with the idea that their sufferings have been caused by a scorbutic diathesis, which has been communicated to them by their progenitors, without any fault of their own, or any reference to their own filthy personal habits.

There is perhaps no greater absurdity than the common notion, that washing the face and hands, and occasionally the feet, constitutes personal cleanliness, or that such partial ablution can act hygienically. It is from all parts of the body's surface (more so from some than from others, especially from those that are covered) that chemical compounds and effete elements are elicited in the shape of sensible and insensible perspiration—therefore, to escape the evils attendant on filthy personal habits, we must not be content with partial ablution, but extend it to the entire body.

To all those who may be ignorant of, or any way sceptical on, the point of the hygienic value of personal ablution, we would recommend the perusal of the writings of Drs. Andrew

Combe, Southwood Smith, Mr. G. A. Walker, and the excellent work of Mr. Erasmus Wilson on healthy skin—they will then become acquainted with the important uses and functions of their *own covering*—they will find in the above-mentioned authorities, the subject of cuticular economy ably investigated, and the intimate connection of the outer and inner skins (the one being a continuation of the other) clearly set forth—showing that through the perspiratory system, consisting of openings in the skin called pores, that the temperature of the body is not only managed to a certain extent, but also that a number of compounds noxious to animal life are removed from the system, by which means the blood and other fluids are kept in a state of purity.

In order to give some idea of the injurious effects of interference with the functions of the skin, by a retention and the necessary accumulation of innumerable chemical agents, we may refer to Lavoisier and Seguin's researches on the subject. It was estimated by them that *eight grains* of perspiration are exhaled by the skin in the course of *a minute*, a quantity which is equivalent to *thirty-three ounces* in the *twenty-four hours*. On the cuticular surface it has been computed by them that there are seven millions of pores, which being blocked up by impurities for want of personal cleanliness, must prevent the elimination of their contents, and these being again thrown into the system by the circulation, cannot but be highly detrimental to health.

To a want of personal purification by washing, the frequency of many of our most distressing and fatal diseases, such as those of the lungs and of the kidneys, termed consumption and Bright's disease, may be traced, as also the affection so common in this country, and very justly termed an Englishman's inheritance, "dyspepsia,"—by our making the lungs, the kidneys and bowels, which are depurating organs as well as the skin, act the part of scavengers to the entire system, in the elimination of the greater portion of its impurities, and thus perform the proper office of the skin.

It is true that within the last few years many praiseworthy exertions have been used for the purpose of establishing baths and wash-houses for the poor, which it is to be hoped

will meet with further encouragement and extension, but as fashion rules a large portion of mankind even in physic,—we would suggest that in order to secure a more complete and general use of personal ablution, our leaders of fashion and the upper classes who have so much to say on the subject of wash and bath-houses for the poor, should set the example by establishing baths, after the custom of the Orientals, in their own private residences; for in spite of the increase of wealth and luxury, of the splendour and extent of the houses of recent erection in this country,—baths are very far from being universal. Much may also be attained by patronising the few excellent but neglected public baths of this great metropolis—such measures would not only have the effect of increasing the number of those baths already established, but of inducing from the increased facility, that personal purification, which ultimately would be found to be indispensable. "*Usus est altera natura.*"

In concluding these our remarks on the three grand essentials to life, we would observe that it is astonishing with what little amount of food a human being may live in health and strength, (we of course allude to those who eat to live) when supplied in due proportion with the requisites for vitality, namely, LIGHT, AIR, and WATER. Further, we would ask, what can be more monstrous in this enlightened age, so outrageous of every principle of reason—so contrary to daily experience and common sense, as "The barring-out the free fresh air, and the meting-out to mortals of Heaven's light," by that blot on civilization, the window tax,—a tax which originated in iniquity, * at a time too, when so much is being agitated about sanatory measures. We neglect the first principles of vitality, to go groping into sewers and cesspools, which we repeat are but secondary considerations, the ultimatum of which will prove to be but little better than the relief of the olfactories, to tickle the gustatory nerves by furnishing for our palates in the shape of Thames water, the filthy abominations of an overgrown city.

* Ad. 1695, on 31 dec. The House of Commons resolved to raise £1,200,000 for supplying the deficiency of the clipped money by a tax on windows.

While on the subject of Prophylaxis, we must not omit allusion to the barbarous and pestiferous custom of intra-mural burial, which cannot be too strongly deprecated, as being not only subversive of every Christian feeling—from the daily revolting spectacle of violated sanctuaries—but otherwise demoralizing in the extreme, and poisonous to the public.

This subject has been so ably and perseveringly handled by the indefatigable Mr. G. A. Walker, that little room for further exposition is left; but alas, with what little effe considering the vital importance of the subject, have Mr. W. indomitable and praiseworthy exertions been attended? From the disgusting apathy evinced, it would appear that nothing short of one of those terrible inflictions with which in former days the Almighty was wont to visit the iniquities of his people, will bring those whose immediate province it is to a sense of the evils and perils of such abominations, which they, in spite of common sense, actuated by cupidity and fool-hardiness, still perpetuate.

That interment, or enclosing the dead in a grave, is a most ancient custom, there cannot be a doubt. The Egyptians and Asiatics practised interment from the beginning of time. Subsequently, it became the custom to *burn* the bodies of the dead. By Homer's description of the funeral of Patroclus, it would appear that the Greeks used burning as early as the Trojan war. They also had recourse to interment, as is seen by their historians, who give an account of the manner in which the body was placed in the grave: Plutarch tells us that they were laid with their faces towards the east or towards the west; and Cicero informs us that, in early times, as those of Cecrops, interment was altogether made use of by the Greeks,—but we have ample testimony in history that it always took place *without* their cities, particularly amongst the Jews and Greeks, from whom the Romans derived the practice. We have several passages in the New Testament, showing that the Jews buried their dead *without* their city. Thus, the sepulchre, in which Joseph laid our Saviour's body, was in the same place where he was crucified (John xix. 41), which was near the city (John xix. 20). And we are taught

in St. Matthew (xxviii. 52-53) that, at our Lord's passion, the graves were opened, and many bodies of the saints which slept, arose and came out of the graves after his resurrection, and went *into the Holy City*, and appeared unto many.

Servius, in giving an account of the unhappy death of his colleague Marcellus, which happened in Greece, says, that he could not by any means obtain leave of the Athenians to allow him a burying place *within* the city. The Romans observed the same custom from the first building of their city, which afterwards became a law, as settled by the Decemviri, "neither burn nor bury within the city." They generally buried near the high-ways, in fields appropriated to the purpose. Their reason seems to have been founded on sacred as well as civil considerations. Among the former, that passengers might see the graves, and be reminded of their own mortality—hence, as Varro tells us, the inscription on the monuments, "Sta viator!";—among the latter, "that the air might not be corrupted by the stench of putrifying bodies." It is related of Propertius, that he was very earnest in desiring that he might not be buried after the ordinary custom, near a *road*, for fear it should disturb his shade. There were, however, exceptions amongst the Romans to the prohibition of intramural burials, as in the case of the vestal virgins, who, Servius informs us, were allowed by law a burying-place within the city. The same privilege or honour was permitted to some extraordinary persons, as to Valerius Publicola, and to Fabricius, to continue to their heirs; yet none of their families were afterwards interred there, but the body being carried thither, some one placed a burning torch under it, and then immediately took it away, as an attestation of the deceased's privilege, and his receding from the honour. The body was then removed for burial to another place without the city.

The ancient Persians never buried in cities or towns. Their kings were interred on a high hill on the east of Persopolis; generally throughout Persia and the Levant, there were no burying places except those without the city.

The cemeteries of the Turks were always without the towns, that the air might not be corrupted by the vapours

arising from the graves; they, in like manner as the Romans, also bury by the sides of highways, that travellers may be reminded to pray to God for the deceased. The Chinese adopt a similar kind of sepulture. Eusebius informs us that when the Christians, by favour of Constantine, built churches in the cities, they had their burial places allotted them outside the cities and towns.

According to Gregory of Tours, it was not until the latter part of the sixth century, about 590, that funeral places and cemeteries within the towns were consecrated.

Intramural burials and churchyards, it would seem, originated in the idea that persons passing the graves of their relatives or friends on their way to worship, might be reminded to offer up prayers for them; and the profit might also be another motive. The gross and horrible indignities now so frequently offered to the dead in consequence of over-crowding, to the great scandal of our national religion and character as a Christian people, could never have been contemplated; on the contrary, it was intended to offer a sacred asylum for the mortal remains of those whose memories were dear to us.

Hosperian informs us that the ancients greatly opposed the innovation of burying in towns and churches, and on that account the councils of their bishops made several canons and decrees against intramural and church burials.

Whether the ancients burned or interred their dead, they never made choice of the place of Divine worship, either to bury the body or deposit its ashes. For centuries after Christianity, they never presumed to make God's Temple the carnicle of the dead: on the contrary, when the ancient mode of burial without the city began to be neglected, burials in churches were opposed by authority. A law in the Theodosian code has these words—"Let no one imagine that the churches of the Apostles and Martyrs were designed for burial places for the dead." The Emperor Charles the Great has this injunction, "Let no one bury any dead in the church." Subsequently, Louis the Pious most strenuously opposed burying within the churches, requiring; "That the constitutions, used and settled by the ancient Fathers, should be observed in the burial of the dead."

So tenacious were the ancients, of anything like desecration of their churches, that, we are told by Baronius that one Borachas being persecuted by the Gentiles at Gaza, and having been left for dead, the Christians took him up and carried him into the church; the Gentiles and some of the authorities, on making enquiry for him, complained that the Christians had broken the liberty of their city, and had trespassed against their laws; for that they had brought a dead body into the city, which ought in no wise to be done; they supposing that Borachas was dead.

The being buried in or near a church, we are told, originated with the first Christian emperor Constantine, who, although he did not desire to be buried within the church (a thing in his day unheard of) was resolved that his remains should be deposited as nearly as possible to it, and they were accordingly inhumed in the porch of the great church at Constantinople. Subsequently, the practice increased, and persons of quality claimed a similar privilege; their inferiors again, although they claimed not the right of being buried within the porches, deemed it an honour to be buried as near thereto as possible; hence, another reason assigned for large courts and yards about churches.

Some time after, Pope Gregory the Great brought into the churches, and set up in the most solemn manner, relics enshrined in cases of gold, which were sometimes placed upon, or over, but generally under the altar. This made persons flock towards them, and bury their dead there, in the hope that both might receive benefit from such veneration. Thus, that which was originally considered a profanation, ultimately through the corruption of subsequent ages, became not only a means of satisfying ambitious pride, but also apparently of conferring the blessings of eternal happiness.

The custom of interring persons of rank in churches, was first introduced into this country by Cuthbert, the tenth Archbishop of Canterbury, who in the year 798 procured the privilege from the Pope to have churchyards for interment—with reference to burying in churches, the custom did not arise earlier than the year 1076. In the reign of William the Conqueror, the council held at Winchester, under Lanfranc,

Archbishop of Canterbury, by the ninth canon opposed burial in churches—it soon after however became a custom, and vaults were built under the altars.

"It is horrid," said the Austrian Emperor, "that a place of worship, a temple of the Supreme Being, should be converted into a pest-house for living creatures."

A person who upon his death-bed makes it a condition in his will that he should be buried in a church or chapel, acts like a madman; he ought to set his fellow-creatures a good example, and not do all in his power to destroy their health by exposing them to the effluvia arising from a corpse in a state of putrefaction. Well would it have been for the inhabitants of this vast metropolis had Sir Christopher Wren's plan been carried out at the rebuilding of the city, after the fire of 1666. All churchyards were to have been removed without the town.

In the year 1786, the legislature of Germany passed a law, which was punctually observed in the empire over which Joseph the Second ruled, and which we would do well to imitate, instead of using the under-part of our chapels as store and pest-houses. This law prohibited the burying of dead bodies in any chapel or church whatever; neither rank nor affluence can obtain permission to evade it, as in the enforcement of it no respect is paid to persons.

Of the injurious and fatal effects of exhalations from overcharged burial places, we have a striking illustration, that scarcely admits of a doubt—at least, as far as predisposition goes. In an old work, entitled "Dr. Dover's Ancient Physician's Legacy," we have the following; Dover, it must be understood, was an extraordinary character, uniting in his own person the profession of physic and buccaneering. He says: —"When I took by storm the two cities of Guyaquil, under the line, in the South Seas, it happened that, not long before, the plague had raged amongst them. For our better security and the keeping of our people together, we lay in the churches, and likewise brought thither the plunder of the cities. We were very much annoyed by the smell of the dead bodies. These could hardly be said to be buried; for the Spaniards abroad use no coffins, but throw several dead

bodies, one upon another, with only a draw-board over them; so that it was no wonder we caught the infection. In a few days after we went on board, one of the surgeons came to acquaint me that several of my men were taken after a violent manner, with that languor of spirits that they were not able to move; in less than forty-eight hours, we had in our ships one hundred and eighty men in this miserable condition."

The Rev. Dr. Render, in his "Tour through Germany," published in London, in the year 1801, alludes to the following case:—"In the month of July, 17—, a very corpulent lady died at ——. Before her death, she begged, as a particular favour, to be buried in the parochial church: she died on the Wednesday, and on the following Saturday was buried according to her desire. The day following, the clergyman preached her funeral sermon: the weather was uncommonly hot; and it ought to be observed that, for several months preceding her death, a great drought had prevailed; not a drop of rain had fallen, consequently it was an uncommonly sultry season. The succeeding Sunday, the Protestant clergyman had a very full congregation, upwards of nine hundred persons attending, that being the day for administering the Holy Sacrament. The weather still continuing very hot, many were obliged during the service to walk out for a time, to avoid fainting; whilst some actually fainted away. It is the custom, in Germany, that when people wish to receive the sacrament, they neither eat nor drink that day, until the ceremony is entirely over. The sermon occupied about one hour and a quarter; after which the bread was consecrated, and, according to custom, remained uncovered during the ceremony.

There were about one hundred and eighty communicants. A quarter of an hour after the ceremony, before they had quitted the church, more than sixty of them were taken ill; several died in the most severe agonies; others, of a more vigorous constitution, survived by the help of medical assistance; a most violent consternation prevailed throughout the whole congregation and town. It was concluded that the wine had been poisoned, and

so it was generally believed; the sacristan, and several others belonging to the vestry, were immediately arrested, and cast into prison. The clergyman, on the succeeding Sunday, preached very excitingly, and pointed out to his congregation several others concerned in the plot. This enthusiastic sermon was printed. The persons accused underwent very great hardships; during the space of a week they were confined in a dungeon, and some of them were put to the torture; but they persisted in asserting their innocence. On the Sunday following, the magistrate ordered that a chalice of wine, uncovered, should be placed for the space of an hour upon the altar, which time had scarcely elapsed when they beheld the wine filled with myriads of insects; and, by tracing them to their source it was at length perceived, by the rays of the sun, that they issued from the grave of the lady who had been buried the preceding fortnight. The people not belonging to the vestry were dismissed, and four men employed to open the grave and the coffin; in doing which two of them dropped down, and expired upon the spot; and the other two were only saved by the utmost exertion of medical talent. It is beyond the power of words to describe the horrid sight of the corpse, when the coffin was opened. The whole was a mass of entire putrefaction; and it was now clearly demonstrated that the numerous insects, both large and small, together with the effluvia which had issued from the body, had caused the pestilential infection, which was a week before attributed to poison. On this discovery, those who had been accused of poisoning the wine, &c., &c., were liberated, and atonement made by the clergyman and magistrate for their unfounded charge.

But a few years ago, in the autumn of 1843, the poisonous effects of disturbing a grave-yard, were but too fatally evident. The church and church-yard of Minchinhampton are very old,—the latter having served for a burying-ground for the previous five hundred years, was consequently densely crowded with dead bodies. In rebuilding the church, it became necessary, or was thought expedient, to lower the surface of the grave-yard to within a foot or two of the remains of those buried. Many bodies were disturbed

during this process, and re-interred. The earth so removed of a dark colour—saturated, in fact, with the product of human putrefaction—was, in a fatal hour, devoted to the purposes of agriculture! About one thousand cart-loads were thus employed—some on a new piece of burial ground, to make the grass grow quickly, some as manure on the neighbouring fields, some in the rector's garden! and some in the patron's garden. The seeds of disease were thus widely sown, and the result was such as any person of common sense might have expected. The diffusion of a morbid poison which soon followed, was evinced by an outbreak of fever in this previously healthy locality. The family of the rector, and the inhabitants of the street adjoining the church-yard, were the first attacked, and the greatest sufferers. The rector lost his *wife*, his daughter, and his gardener. The patron's gardener, who had been employed in the unseemly act of dressing flower-beds with human manure, also died. In short, wherever the earth had been taken, disease followed. The children who attended the school took fever as they passed the upturned surface of the grave-yard, went home, and died; but they did not communicate the disease to those who came near them, nor did it arise in any persons who were not exposed to the cause of its development. Seventeen deaths occurred, and upwards of two hundred children were attacked with measles, scarlet fever, and peculiar eruptions.

Do not the fearful consequences of such unhallowed proceedings savor much of the retributive hand of Heaven, overtaking those concerned in the desecration of the dead? The appropriation of the soil, which should have been held as sacred;—of human remains, for the purposes of agriculture—the cultivation of vegetables and flowers! and by one, too, holding the sacred office of a pastor. *O tempora! O mores!*

On reviewing the foregoing observations, and on seriously contemplating the condition of the ill-ventilated rooms and workshops, the damp, dark, and insalubrious cellars, little better than dungeons—the dreary, close, stifling courts, and narrow dark alleys, into which the light of heaven rarely pe-

netrates;—we say, while contemplating these abodes of our lower classes, (which would be injurious even to swine, the culpable apathy, prejudice, and bad arrangements, of those whose duty it is to remedy such crying evils, cannot but be obvious. In conclusion, we would therefore earnestly recommend to all such delinquents for their guidance, and to all those enlisted in the cause of sanitary reform, the salutary directions as to washing, cleansing, purification, &c., &c., conveyed in the Mosaic Ordinances, especially the following passages, as showing with what minuteness all matters appertaining to health, to the very freeing of houses from damp, were directed; that we, the enlightened and refined of the nineteenth century, may profit thereby.

"34 When ye come into the land of Canaan, which I give to you for a possession, and I put the plague of leprosy* in a house of the land of your possession;

"35 And he that owneth the house shall come and tell the priest, saying, It seemeth to me *there is* as it were a plague in the house:

* In explanation of what is meant by this text, "Leprous House," Michaelis observes that the walls of houses are often attacked by something that corrodes and spoils them. The walls become wet and mouldy from a mural salt, and that to such a degree as, in consequence of the erosion spreading further and further, to cause the house to tumble down; the plaster also becomes damaged, and requires frequent replacing, furniture becoming spoiled, and persons being injured in their health by sleeping near such walls. If we experience such effects in modern Europe, there is room to conclude that they were more strongly exhibited at the earlier period under notice, and in countries where the houses were but of one story and low. Taking this, therefore, for the "house leprosy," the object of the Mosaic law or ordinance is sufficiently intelligible. Besides, to this day there are certain diseases of trees in Egypt and Palestine, to which the name of leprosy is given. In Switzerland, also, they speak of cancer in buildings on the same principle, and why should we not understand the leprosy in buildings of the text as being something of a similar description. It is true that man, stone, and clothes, have not the same diseases; but from some analogous circumstances, real or fanciful, the diseases of man may be, and have been, evidently from the above, applied by a figure of speech to diseases in other things.

If we believe that the house leprosy here spoken of was anything relating to the disorder of the same name in man, it will be difficult to account for the symptoms and mode of treatment; and if we suppose that the walls of the house had taken a leprous contagion from man, and were in a condition, when really infected, to transmit it to man, the very direction to remove the furniture before the entering of the priest, would lead to the contrary opinion, for removing the furniture would be calculated to propagate the leprous infection. It was the damp and unwholesome state of the house to which attention was directed.

" 36 Then the priest shall command that they empty the house, before the priest go *into it* to see the plague, that all that *is* in the house be not made unclean: and afterward the priest shall go in to see the house.

" 37 And he shall look on the plague, and, behold, IF the plague *be* in the walls of the house with hollow strakes, greenish or reddish, which in sight *are* lower than the wall:

" 38 Then the priest shall go out of the house to the door of the house, and shut up the house seven days:

" 39 And the priest shall come again the seventh day, and shall look: and, behold, *if* the plague be spread in the walls of the house:

" 40 Then the priest shall command that they take away the stones in which the plague *is*, and they shall cast them into an unclean place without the city;

" 41 And he shall cause the house to be scraped within round about, and they shall pour out the dust that they scrape off without the city into an unclean place:

" 42 And they shall take other stones, and put *them* in the place of those stones; and he shall take other mortar, and shall plaister the house.

" 43 And if the plague come again, and break out in the house, after that he hath taken away the stones, and after he hath scraped the house, and after it is plaistered;

" 44 Then the priest shall come and look, and, behold, *if* the plague be spread in the house, it *is* a fretting leprosy in the house: it IS unclean.

" 45 And he shall break down the house, the stones of it, and the timber thereof, and all the mortar of the house; and he shall carry *them* forth out of the city into an unclean place.

LEVITICUS, Chap. xiv.

FINIS.

MUNRO, Printer, Queen's Head Yard, Great Queen Street, Lincoln's Inn Fields.